



RICHARD (RIT) BOOTH, P.E.
4372 North Wildwood Avenue
Milwaukee, WI 53211
414-962-2325
ritbooth@alum.mit.edu

RECEIVED
DEC 24 2003
OFFICE OF PETITIONS

December 16, 2003

Assistant Commissioner for Patents
Box DAC
Washington, D.C. 20231

Re: 09/819,033

Dear Sir or Madam,

I am petitioning for revival of patent application 09/819,033. The delay in reply to office action dated May 23, 2003 was unavoidable.

With reply to office action due November 23, 2003 I had planned to work on the reply in October after attending to other priorities.

However, I suffered a stroke on October 11 and was hospitalized for several days. Very luckily I have come through this medical problem with no permanent effects. Unfortunately, I was unable to complete the reply to office action prior to November 23rd.

At this time I have completed the reply to office action and it is enclosed.

Sincerely,


Richard Booth

RECEIVED

DEC 24 2003

#17

DAE\$

PTO/SB/61 (11-03)

Approved for use through 07/31/2006. OMB 0651-0031

OFFICE OF PETITIONS

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Docket Number (Optional)

PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED
UNAVOIDABLY UNDER 37 CFR 1.137(a)

First Named Inventor: RICHARD BOOTH

Art Unit: 3682

Application Number: 09/819,033

Examiner: MR. COLBY HANSEN

Filed: AUGUST 23, 2000

Title: CONTROL METHODOLOGY FOR INERTIAL ENERGY STORAGE DEVICES

Attention: Office of Petitions

Mail Stop Petition

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

NOTE: If information or assistance is needed in completing this form, please contact
Petitions Information at (703) 305-9382.

The above-identified application became abandoned for failure to file a timely and proper reply to a notice or action by the United States Patent and Trademark Office. The date of abandonment is the day after the expiration date of the period set for reply in the Office notice or action plus any extensions of time actually obtained.

APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION.

NOTE: A grantable petition requires the following items:

- (1) Petition fee.
- (2) Reply and/or issue fee.
- (3) Terminal disclaimer with disclaimer fee-required for all utility and plant applications filed before June 8, 1995, and for all design applications; and
- (4) Adequate showing of the cause of unavoidable delay.

1. Petition fee

☒ Small entity - fee \$ 55 (37 CFR 1.17(l)). Applicant claims small entity status.
See 37 CFR 1.27.

☐ Other than small entity - fee \$ _____ (37 CFR 1.17(l)).

2. Reply and/or fee

A. The reply and/or fee to the above-noted Office action in the form of
REPLY TO OFFICE ACTION (identify the type of reply):

☐ has been filed previously on _____.

☒ is enclosed herewith.

B. The issue fee of \$ 55

☐ has been filed previously on _____.

☒ is enclosed herewith.

[Page 1 of 3]

This collection of information is required by 37 CFR 1.137(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

12/23/2003 SLUANG1 00000024 09819033

01 FC:2452

55.00 DP

**PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED
UNAVOIDABLY UNDER 37 CFR 1.137(a)****RECEIVED**

DEC 24 2003

OFFICE OF PETITIONS

3. Terminal disclaimer with disclaimer fee

- ☒ Since this utility/plant application was filed on or after June 8, 1995, no terminal disclaimer is required.
- ☐ A terminal disclaimer (and disclaimer fee (37 CFR 1.20(d)) of \$ _____ for a small entity or \$ _____ for other than a small entity) disclaiming the required period of time is enclosed herewith (see PTO/SB/63).

4. An adequate showing of the cause of the delay, and that the entire delay in filing the required reply from the due date for the reply until the filing of a grantable petition under 37 CFR 1.137(a) was unavoidable, is enclosed.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

12/14/03

Date

Signature

414-962-2325

Telephone Number

Richard A. Booth, Jr.

Typed or printed name

4372 N. WILLOWOOD AVE

Address

Registration Number, if applicable

S KOREWOOD WI 53211

Address

- Enclosure ☒ Fee Payment
- ☒ Reply
- ☐ Terminal Disclaimer Form
- ☒ Additional sheets containing statements establishing unavoidable delay
- ☐ _____

CERTIFICATE OF MAILING OR TRANSMISSION (37 CFR 1.8(a))

I hereby certify that this correspondence is being:

- ☒ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to **Mail Stop Petition**, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

- ☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (703) 872-9306.

12/16/03

Date

Signature

Richard A. Booth, Jr.

Typed or printed name of person signing certificate

**PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED
UNAVOIDABLY UNDER 37 CFR 1.137(a)**

NOTE: The following showing of the cause of unavoidable delay must be signed by all applicants or by any other party who is presenting statements concerning the cause of delay.

12/16/03
Date

[Signature]
Signature
RICHARD A. BOOTH, JR.

Registration Number, if applicable

Typed or printed name

(In the space provided below, please explain in detail the reasons for the delay in filing a proper reply.)

LETTER DESCRIBING REASON FOR DELAY
IS ATTACHED.

(Please attach additional sheets if additional space is needed.)



RICHARD (RIT) BOOTH, P.E.
4372 North Wildwood Avenue
Milwaukee, WI 53211
414-962-2325
ritbooth@alum.mit.edu

RECEIVED
DEC 24 2003
OFFICE OF PETITIONS

#19/ response
3-23-04
[Signature]

December 16, 2003

Mr. Colby Hansen
Technology Center 3600
US Patent and Trademark Office
Commissioner of Patents and Trademarks
Washington, DC 20231

Re: Office Action Dated May 23, 2003
Application No. 09/819,033

Dear Mr. Hansen,

Thank you for your attention to my patent application, application number 09/819,033, Control Methodology for Inertial Energy Storage Devices and also for agreeing to wait to formally abandon the application. Unintentionally I was not able to complete this reply within the specified time limit. I have filed a petition for revival, to which I have attached the following reply to office action.

Regarding **1. - Priority**: You may wish to refer to my January 6, 2001 petition to convert a CPA to a patent application for background details. As described in that petition, the disclosures contained in application 09/819,033 were originally submitted on August 23, 2000 as a continuation of application 09/235,192. The continuation was rejected on October 17, 2000 because the CPA was filed after payment of the issue fee, thereby prompting the aforementioned petition.

If, as you suggest in **1. - Priority**, it is possible to receive a filing date of 1/22/1999 rather than 8/31/2000 this may be desirable.

Regarding **2. - Election / Restriction**: Claims 1 -3 in application 09/819,033 are identical to claims 1-3 in U.S. Patent 6,120,411, and restated in the Continued Prosecution Application Request Transmittal. In response to your office communication with mailing date 9/20/02 I elected Group II, Claims 4 - 7 without traverse. I assume that based on my election application 09/819,033 Claims 1, 2, and 3 will be deleted and further that claims 4, 5, 6, and 7 will become claims 1, 2, 3 and 4 if and when the patent is issued.

Regarding **3. - Information Disclosure Statement**: I believe a list of all patents, publications and other information submitted for consideration by the office was supplied with the Continued Prosecution Application Request Transmittal mailed on August 23,

2000. A copy of the list will be enclosed with this response.

Regarding **4. & 5. - Claim Rejections - 35 U.S.C. 112:** The "subject matter which I regard as the invention" is the control system (also disclosed in U.S. patent 6,120,411) which controls "the CVT speed ratio based on feedback of CVT output torque" when this control system is incorporated into a wheeled vehicle with a flywheel energy source. The claims in U.S. patent 6,120,411 (as well as 09/819,033 original claims 1, 2 and 3) are independent of any particular application. Claim 4 specifically incorporates the control system, including a flywheel and a CVT, into a wheeled vehicle.

A clutch and a fixed ratio transmission, neither of which would be considered a component of the power regulation control system, are described in the specifications for both U.S. patent 6,120,411 and application 09/819,033. Claim 5 of application 09/819,033 specifically incorporates a fixed ratio "speed reducer" into the invention in claim 4. (Should "speed reducer" be changed to "transmission" in the Claim to match the wording in the specification?) Claim 6 specifically incorporates a clutch into the invention in claim 4.

The specifications for both U.S. patent 6,120,411 and application 09/819,033 specifically state that energy is stored by the flywheel, therefore not generated. The need for an energy source to energize the flywheel initially and when partially discharged due to dissipative forces (friction, wind resistance, etc.) is clear in the specification. Claim 7 specifically incorporates a prime mover (i.e. energy source) coupled to the flywheel into the invention in claim 4.

I believe claims 4 through 7 as written (with the change to claim 4 described below in 6.) do distinctly claim the subject matter which I regard as the invention. When you and I discussed the claims rejections on the telephone December 10th you suggested that application 09/819,033 claims 4 through 7 may constitute double patenting when compared to U.S. patent 6,120,411 claims 1 through 3. The claims in U.S. patent 6,120,411 are broad and independent of any specific application of the invention. I am pursuing application 09/819,033, converted from a continuation of U.S. patent 6,120,411, to protect my invention in the specific application of a vehicle.

On the phone you recommended filing a form of terminal disclaimer along with this reply. To avoid any confusion, I have chosen to wait until after you review of this reply and, if necessary, to address the possible double patenting issue later.

Regarding **6. - Claim Rejections - 35 U.S.C. 112:** In reviewing the wording of Claim 4 I see that the claim is imprecise in that coupling between the flywheel and CVT is merely implied with inclusion of the words "coupled in series", but not explicitly stated. A revision to Claim 4, which would add a specific description of the structural relationship of the flywheel to the rest of the vehicle, is:

Claim 4 (revised) A wheeled vehicle which includes a flywheel for energy storage coupled to one input / output shaft of a continuously variable transmission

(CVT) and with the other input / output shaft of said CVT coupled to at least one wheel of the vehicle and incorporating control of the CVT speed ratio based on feedback of CVT output torque.

Regarding 7. - **Claim Rejections:** The clutch incorporated in Claim 6 may be between the flywheel and CVT, between the CVT and driven wheel or one could go in both locations. Use of the words "in series" is intended to disclose any and all of these three placements. I am not sure if the word "or" is appropriate in a claim. I will telephone to discuss your opinion whether the claim should be revised to explicitly describe three placements separated by the word "or" or describe each of the two or three clutch placements in separate claims.

Regarding 8. & 9. - **Claim Rejections – 35 U.S.C. 102:** I believe the invention disclosed by Mr. Tabor in U.S. Patent 3,858,674 is entirely different than the invention disclosed by myself in either U.S. patent 6,120,411 or patent application 09/819,033.

Firstly, all claims in Mr. Tabor's invention include an electric motor. Claim 1 begins "A variable-speed electric drive system ... comprising ... an electric motor". Claims 2, 3, 5, 6, 7, 8, 9, 10 and 11 all reference claim 1. Claim 4 begins as claim 1, i.e. "A variable-speed electric drive system ... comprising ... an electric motor". Figure 4, item 31 is described as "the electric motor" in specification column 6, line 1. In Mr. Tabor's invention, the electric motor may slip, and in fact must slip to accommodate any lack of synchronization between the drive wheels and the flywheel that may result from open loop control of the "torque converter".

Not only is an electric motor not a component of the invention disclosed by myself in U.S. patent 6,120,411 or patent application 09/819,033, the specifications describe the benefits of a system without an electric motor. I believe that neither a system without an electric motor nor a system without provision for slip between the drive wheels and the flywheel were claimed or anticipated by Mr. Tabor.

Secondly, Figure 4 shows a "torque converter" (Mr. Tabor's term) comprising many items including 39, 38b, 38a, 40, 46a, 46b, 50, 43a, 43b, 44, 45a 45b and 47, essentially two variable pitch "V" belt drives. Alternatively these items could be referred to as a continuously variable transmission [CVT]. Unlike my invention, which includes a flywheel, a CVT and a drive wheel, Mr. Tabor does not describe in the specification or in the claims a control system or mechanism to automatically vary the ratio of the "torque converter".

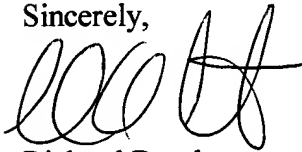
My specification describes in detail a control system that is based on output torque feedback and continuously synchronizes the flywheel with the drive wheel(s), thereby eliminating slip. According to Mr. Tabor's Claim 1 and Claim 4 his invention includes a "means for continuously varying said ratio". However, automatic control for the "means of varying" is not described. The description of the embodiment shown in Figure 4 specifically states "the pulley is moved to the right by means of the accelerator lever".

Figure 5 shows "the manner in which the torque converter ratio c/Y has to be altered *by the operator...*" (italics added).

I believe that control of the speed ratio based on feedback of the output torque was neither claimed nor anticipated by Mr. Tabor.

My invention, U.S patent 6,120,411, is control of the CVT speed ratio to regulate the power flow to and from the inertial energy storage device *based on feedback of the CVT output torque*. Claims 4 through 7 of patent application 09/819,033 are for the same output torque feedback control system, but only in the specific application of a wheeled vehicle. Although claims 4 through 7 are a sub-set of the claims in U.S patent 6,120,411, they offer protection if for any reason claims in 6,120,411 were ever overruled as "too broad" due to not claiming any specific application(s).

Sincerely,

A handwritten signature in black ink, appearing to read 'Richard Booth', with a stylized, cursive script.

Richard Booth



RICHARD (RIT) BOOTH
4372 North Wildwood Avenue
Milwaukee, WI 53211
414-962-2325
ritbooth@alum.mit.edu

Contents: Booth patent application file

Notice of Allowance (copy)

Notice of Allowability (copy)

Application Amendment II (final) dated June 6, 2000 (copy)

Patents and prior art cited in application (by inventor)

U.S. Patent 3672244 – “Nasvytis” Claims 1 thru 5 (of 5)

U.S. Patent 4342371 – “Smitley” Claim 1 of 16

What's Driving the Rosen Boys? Time Magazine September 23, 1996

Response to Application Amendment I (copy)

Application Amendment I dated May 8, 2000 (copy)

Office Action Summary (regarding original application) (copy)

Specification (regarding original application) (copy)

U.S. Patent 3886810 – “Sugiyama” – Basis for rejection of claims in Specification (regarding original application) (Printed from pdf file)

Additional patents *not relied upon* but considered pertinent. (These are the copies supplied to me by the patent office; please return.)

U.S. Patent 4393694 – “Kemper”

U.S. Patent 4479356 – “Gill”

U.S. Patent 4583505 – “Frank”

U.S. Patent 4813509 – “Harris”

U.S. Patent 5857937- “Ashizawa”